

1809 #6

*Stimulating and Nutritive effects
of Lycopodium.*

Thos. Harris

he is about to embark.

By light I mean that subtle fluid emitted from luminous bodies, and which is possessed of very peculiar and important properties.

Whether contemplated in a physical or chymical point of view, light must be pronounced one of the choicest gifts of heaven. — It is not only one of the principle stimuli of life, but as the medium of vision, affords us innumerable captivous perceptions.

Few subjects merit an attention more than this circumambient ethereal fluid, by means of which all the beauty and glory of creation are laid open to our view.

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savage acknowledges the divine influence of light, by reverencing and offering oblations to some one or other of the heavenly luminaries.

It is remarkable that man was not brought into existence till the luminaries were formed. - Adam awoke surrounded by light, and soon became sensible of this congenial stimulus to his nature.

The stimulating properties of light have long since, and are now generally admitted; but for its application to the practice of medicine the world is indebted to the illustrious Professor of the institutes and practice of medicine.

For a knowledge of its nutritive qualities, or at least for its

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deification among the articles of
nutrition, the honor is due the in-
genious Doctor Barton.

Notwithstanding the
very essential use of light, in impart-
ing vigour and spiritliness to the
plant after vegetation has commen-
ced; yet we find that if the seed
be barely exposed to the powerful
stimulus of the solar rays, germina-
tion is prevented.

Were this luminous sub-
stance intercepted, vegetables would
sicken and exhibit a lifeless and pa-
lid appearance.

The beautiful, variegated, shades
of most vegetables depend on the presence
of this fluid. - The fungi it is true,
are an exception. - Their colour

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growth are independent of light, and hence the Gardener bleaches his celery and other plants which partake of its nature.

Equally to Chaptal, vegetables are not only indebted to light for their colour, but likewise for their taste, smell, combustibility, maturity, and resinous principle: Hence aromatic substances, resins, volatile oils, and those colouring matters, of so much value for their livelihood and body, are peculiar to southern climates, where light is more pure, constant and intense.

The medicinal qualities of plants that grow in the light are much more active, than those which grow in the shade. — Hence southern

light, his color, his shape, his regularity, his light for his thin, his maturity, his grace, his size, his body, his habits, his constant, his qualities, his light on his whole, his author.

countries yield the most active and valuable medicines.

It is a fact well known to the inhabitants of the western part of Pennsylvania, that the juice which the Palm tree affords during the day, yields much more sugar, than that which ^{flows} thro' the night.

Vegetables discover a partiality for light by the direction of their limbs and flowers. — In cellars and hot-houses where light is admitted in one direction only, we observe them inclining towards the place of its introduction, as if to embrace their beneficent friend, and hence is manifested the congeniality of this fluid to plants of every description, and its necessity to their prosperity and

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growth. — These too partially enclosed, are
always seen pushing their limbs into
the open air, and extending their growth
most rapidly wherever the light is
poured in upon them in the
greatest profusion.

Chaptal ascribes more to
the influence of light than can justly
be attributed to it. — He says "A very
"astonishing property of light on the
"vegetable kingdom is, they emit vital
"air". — This phenomenon professor
Woodhouse has illustrated ^{both} ingeniously
and satisfactorily, by means of a
series of experiments. — From these he
has proved that oxygen gas is not
eliminated from the plant, but is
dependent on a decomposition of

carbonic acid present, effected by the stimulus of light. - The plant indeed appears to devour, and to be nourished by the carbon, whilst the vitæ air is disengaged. - For he could in no instance procure the smallest quantity of oxygen gas, unless there were carbonic acid present in the water in which the vegetables were placed.

Light has a very peculiar effect on another class of animated beings. - We observe those animals which are secluded from light, have a peculiar, whitish colour, such as grubs, worms, &c which live in the earth or in trees. - The top of colour is also observable in

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the arctic animals during the long
nights in the countries near the poles.

The nocturnal birds and fly-
ing insects of the night, are distin-
guishable from those of the day by
their want of brilliancy of colour.

Doctor Gistanner has ob-
served, that animals which conceal
themselves for the greatest part of
the year, in subterraneous dwellings,
lose their colour and become white,
and that mice kept in a cage, in a
dark room, have produced white
offspring. - The difference is equally
manifest between those animals
of the north and of the south. -
Hence I would infer that the dif-
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species is entirely dependent on the

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climate in which they live, and not to any specific difference in the original stamens. — Negro children tho considerably white at birth, become black when exposed to the solar rays, and I am inclined to believe ~~they~~ ^{they} would continue so, even if practicable for them to live without being exposed to the light.

There is a story narrated by fishermen, on which I believe in many but implicit reliance; that fish are much fatter during the full moon, than at any other period. — No man takes place here than is observed in the human species. — The health, ruddy complexion and athletic constitution

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of those persons who are daily ex-
posed to the suns influence, give
strong and imputable evidences
of the alimentary and invigora-
ting properties ^{of light} - Mr Stewart the
German pedestrian traveller in-
formed Doctor Rush that he spent
several months in Lapland lat.
69. during most of which time
the sun was not absent. - and
that he enjoyed an unusual
degree of health and spirits which
he justly attributed to the invigora-
rating influence of the suns light.

Agreeably to one of the laws
of circulation; when two stimulants
of unequal force are applied to the
system at the same time the stronger

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predominates; when I suppose
light is no feeble stimulant, for
it is one of the principle stimuli
which counteracts and prevents
very powerful stimulus of mor-
bide exhalations from affecting
the system during the day. —
hence two kinds of the disease
which attack the human body,
are found to commence in the
night, whilst the system suffers
this privation.

Patients frequently pass
nights in wakefulness, in fevers.
The system is below the sleeping
point, but sinks into a refreshing
sleep at the recurrence of the mor-
ning light, the system being thereby

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raised to that necessary point at
sleep takes place. - Hence the need
of giving a greater quantity of stim-
ulants, in those diseases in which
stimulants are indicated, during
the night than in the day. - I
have also the propriety of de-
corating the rooms of patients whose
fevers are inflammatory.

I consider it as necessary
for the physician to regulate the
quantity of light admitted to
his patients, by the state of the
temperament and nature of the complaint,
as the temperature and purity
of the air in his room.

Light acts particularly on
organs of sight; when too intense

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it induces ophthalmia. - A gentleman informed me, that he never walked or rode out during the time the snow was on the ground without experiencing severe pain in his eyes, much headache, and delirium.

Much unnecessary pains have been taken to discriminate between the solar light, and the light which is afforded by combustion; but I am conscious of the unity and simplicity of nature existing here, as it does in all her works, and their effects are exactly the same, only the latter is slower and less powerful in its operation.

Notwithstanding heat frequently accompanies light, the phenomena of heat cannot be ascribed to mere

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Let men in some measure modify the
where it exists, but most especially it can
frustrate them.

The effects of light did not
escape the observing eye of Lavoisier. He said
"organisation, sensation, spontaneous motion
"and all the operations of life only exist on
"the surface of the earth, and in places
"exposed to the influence of light. -
"and it, nature itself would be lifeless and
"inanimate. - By means of light the
"benignity of the Deity hath filled
"the surface of the earth with organised
"sensation and intelligence".

The effects of light on
animal life are strongly demonstrated
its influence on the spirits. - Who
not experienced its exhilarating effects when
a clear sky and shining sun, or felt a glow
of his spirits in proportion to the glow
of the circumambient atmosphere and
perceptions of this cheering cordial? He
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deprived of light, and confined in dark
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trans, and ⁱⁿ this subject justice.

Life says Doctor Rush is
a more torpid state in those who have
lost their sight and hearing, than in
those who have not.

Since dreaming is as certain
to be the consequence of mechanical
preparations in the body, may we not
think that the frequent occurrence of dreams
in the morning is owing to the state
of light?

Having now concluded my
observations on light, I wish each Pro-
fessor of this university to accept my
warmest acknowledgments for the
great opportunities of improvement
I have enjoyed in their respective
chairs; and my sincerest wishes for
their individual happiness.

Thos. Harris
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